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APPENDIX A - CLAIM AMENDMENTS

Serial No.: 10/668,750
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1. (Original) A device for assessing the degree of systemic perfusion in a patient, the device comprising: a blood-flow sensor, adapted to be positioned adjacent a mucosal surface within a patient's body and measuring blood flow in adjacent tissue; a PCO.sub.2 sensor, adapted to be positioned adjacent the mucosal surface and measuring PCO.sub.2 in the adjacent tissue; and an indicating means operably connected to the sensor means, for indicating the measured blood flow and the measured PCO.sub.2 whereby the degree of systemic perfusion of the patient may be deduced.
2. (Original) The device of claim 1, wherein the mucosal surface is in the gastrointestinal tract.
3. (Original) The device of claim 2, wherein the mucosal surface is in the esophagus.
4. (Original) The device of claim 2, wherein the mucosal surface is in the stomach.
5. (Original) The device of claim 2, wherein the mucosal surface is in the jejunum.
6. (Original) The device of claim 2, wherein the mucosal surface is in the colon.
7. (Original) The device of claim 2, wherein the mucosal surface is in the rectum.
8. (Original) The device of claim 1, wherein the mucosal surface is in the upper respiratory/digestive tract.
9. (Original) The device of claim 8, wherein the mucosal surface is in the nasal passages.
10. (Original) The device of claim 9, wherein the mucosal surface is in the vestibule of the nasal cavity.
11. (Original) The device of claim 9, wherein the mucosal surface is in the nasal cavity.

12. (Original) The device of claim 9, wherein the mucosal surface is in the middle nasal conchae.
13. (Original) The device of claim 9, wherein the mucosal surface is in the inferior nasal conchae.
14. (Original) The device of claim 9, wherein the mucosal surface is in the choana.
15. (Original) The device of claim 9, wherein mucosal surface is in the pharyngeal opening of the auditory tube.
16. (Original) The device of claim 8, wherein the mucosal surface is in the oral cavity.
17. (Original) The device of claim 8, wherein the mucosal surface is in the pharynx.
18. (Original) The device of claim 8, wherein the mucosal surface is in the oropharyngeal passage.
19. (Original) The device of claim 1, wherein the mucosal surface is accessible by a mouth and connects with the gastrointestinal tract.
20. (Original) The device of claim 1, wherein the mucosal surface is accessible by a nose and connects with the upper respiratory/digestive tract.
21. (Original) The device of claim 15, wherein the mucosal surface is a sublingual surface.
22. (Original) The device of claim 1, wherein the device further comprises a positioning means for locating or maintaining the blood flow sensor at a position in the upper respiratory/digestive tract.
23. (Original) The device of claim 22, wherein the positioning means is a holder adapted to fit within the oral-nasal cavity of the patient and maintain the blood flow sensor in place adjacent the mucosal surface.

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24. (Original) The device of claim 23, wherein the positioning means is a holder adapted to fit within the mouth of the patient and hold the blood flow sensor in place adjacent the mucosal surface.
25. (Original) The device of claim 23, wherein the holder is adapted to position the blood flow sensor adjacent a sublingual mucosal surface.
26. (Original) The device of claim 23, wherein the holder is constructed to fit between the inside of a lip and gum of the patient.
27. (Original) The device of claim 23, wherein the positioning means is a holder adapted to fit within the vestibule of the nasal cavity of the patient and hold the sensor in place adjacent the mucosal surface.
28. (Original) The device of claim 1, wherein the blood-flow sensor is a laser-Doppler blood-flow sensor.
29. (Original) The device of claim 1, wherein the blood-flow sensor is an ultrasound-Doppler blood-flow sensor.
30. (Original) The device of claim 1, further comprising a pH sensor.
31. (Original) The device of claim 1, further including a means for determining the rate of change of blood flow.
32. (Original) The device of claim 31 wherein the determining means comprises a circuit for generating a signal representing rate-of-change of blood flow.
33. (Original) A device for assessing the degree of systemic perfusion in a patient, the device comprising: a blood-flow sensor, adapted to be positioned adjacent a mucosal surface within a patient's body and measuring blood flow in adjacent tissue; an indicating means operably connected to the sensor means, for indicating the measured blood flow whereby the degree of systemic perfusion of the patient may be deduced; and a sensor holder with an inner portion and an outer portion, said inner portion shaped to fit in the mouth of a patient under the patient's

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tongue, said holder forming at least one holder passage extending from said outer portion to said inner portion, wherein the sensor is located within the holder passage.

34. (Original) The device of claim 33, wherein the sensor holder has an upper surface that supports the tongue of the patient.

35. (Original) The device of claim 33, wherein the outer portion has a slot for receiving the patient's frenulum, and the holder passage has an inner end lying on one side of said slot.

36. (Original) The device of claim 33, wherein at least a portion of the holder is comprised of an elastomeric material.

37. (Original) A device for assessing the degree of systemic perfusion in a patient, the device comprising: a blood-flow sensor, adapted to be positioned adjacent a mucosal surface within a patient's body and measuring blood flow in adjacent tissue; a pH sensor, adapted to be positioned adjacent the mucosal surface and measuring pH in the adjacent tissue; and an indicating means operably connected to the sensor means, for indicating the measured blood flow and the measured pH whereby the degree of systemic perfusion of the patient may be deduced.

38. (Original) A device for assessing the degree of systemic perfusion in a patient, the device comprising: a blood-flow sensor, adapted to be positioned adjacent a mucosal surface accessible by a mouth and connecting with an upper respiratory/digestive tract in a patient's body and measuring blood flow in adjacent tissue; an indicating means operably connected to the sensor means, for indicating the measured blood flow whereby the degree of systemic perfusion of the patient may be deduced; and a sensor holder adapted to hold the blood-flow sensor adjacent the upper respiratory/digestive tract mucosal surface.

39-46. (Cancelled)

47. (New) A device for assessing the degree of systemic perfusion in a patient, the device comprising:

- a. a surface perfusion pressure monitor for measuring the surface perfusion pressure of a patient; and

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b. a blood pressure monitor for measuring the blood pressure of the patient;

wherein an index is derived from the surface perfusion pressure measurement and the blood pressure measurement to assess the degree of systemic perfusion of the patient.

48. (New) The device of claim 47, wherein the surface perfusion pressure monitor includes a laser Doppler sensor.

49. (New) The device of claim 48 wherein the index derived is a surface perfusion pressure index.

50. (New) The device of claim 47 wherein the surface perfusion pressure monitor includes a photoplethysmograph.

51. (New) The device of claim 50 wherein the index derived is an optical plethysmography index.

52. (New) The device of claim 47 further comprising a blood flow sensor adapted to be positioned adjacent a mucosal surface within a patient's body for taking a measurement, directly or indirectly, the measurement selected from the group consisting of sublingual PCO₂, and SaO₂.

53. (New) The device of claim 52 further comprising a sensor for measuring pH.

54. (New) A method for assessing the degree of systemic perfusion in a patient comprising the steps of (i) measuring the surface perfusion pressure in the patient by utilizing a surface perfusion pressure monitor; (ii) measuring blood pressure in the patient; (iii) calculating an index derived from the surface perfusion pressure measurement and the blood pressure measurement; and (iv) assessing the degree of systemic perfusion of the patient.

55. (New) The method of claim 54 wherein the step of measuring the surface perfusion pressure in a patient includes taking the measurement with a laser Doppler sensor.

56. (New) The method of claim 55 wherein the step of calculating an index derived from the surface perfusion pressure measurement and the blood pressure measurement includes calculating a surface perfusion pressure index.

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57. (New) The method of claim 54 wherein the step of measuring the surface perfusion pressure in a patient includes taking the measurement with a photoplethysmograph.
58. (New) The method of claim 57 wherein the step of calculating an index derived from the surface perfusion pressure measurement and the blood pressure measurement includes calculating an optical plethysmography index.
59. (New) The method of claim 54 further comprising the step of (v) taking a blood flow measurement adjacent a mucosal surface accessible by a mouth within a patient's body selected from the group consisting of sublingual PCO₂, and SaO₂.
60. (New) The method of claim 59 further comprising the step of (vi) providing a pH sensor for measuring pH.